MALE-MALE COPULATION IN *ANTITROGUS CONSANGUINEUS* (BLACKBURN) (COLEOPTERA: SCARABAEIDAE)

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Abstract

Copulation between males of the melolonthine *Antitrogus consanguineus* is reported. This has implications in the understanding of pheromone-mediated behaviour.

Larvae of the melolonthine *Antitrogus consanguineus* feed on the roots of sugarcane in south-eastern Queensland (Bull 1972). Adult males have large $5^1/_2$-lamellate antennal clubs, while antennal clubs of females are shorter, more rounded and $3^1/_2$-lamellate (Britton 1978). Unmated females attract males, presumably by a pheromone (Allsopp unpubl. data).

We observed male-male copulation in *A. consanguineus* five times. The first pair was amongst 20 males confined in a container. None had mated or had picked up traces of pheromones from contact with females, as we had reared them in individual containers from field-collected third-instar larvae. Within 5 min of placing them together in the container, the pair was copulating.

The other times were within three groups of 10-30 males collected in a light trap during September and October 1990. Pairs of males were copulating when we counted the beetles the morning after capture. No females were present in any of these captures.

Fig. 1. Copulating males of *A. consanguineus*.

In all cases the posture of the copulating pair was the same as that of a copulating male-female pair (Fig. 1). Only the large antennal clubs of the lower male distinguished the pair from a normal mating pair. The aedeagus of the upper male was inserted into the genital capsule of the lower male. The upper male's parameres were below those of the lower male, with the tip of the upper male's parameres level with the base of the lower's parameres. Dissection showed that the lower individuals were always males in all respects; none were gynandromorphs similar to a female of *Golofa tersander* Burmeister with external male characters (Ratcliffe 1989).

This homosexual behaviour indicates that females of *A. consanguineus* use the pheromone to attract males over long distances. Over short distances chemical cues are apparently not important, allowing males to misidentify other nearby males and copulate with them. The observations also bear out predictions from sexual selection theory that males of species with low male parental investment should be indiscriminate in mating relative to females (Daly and Wilson 1982).

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